

CLAIMS

1. ^{having,}
^{at least at}
 Zinc aluminate, ~~characterized in that it~~
~~has,~~ after being calcined at 800°C for 8 hours, a
 specific surface area of at least 85 m²/g.

2. Zinc aluminate according to claim 1,
^{having,}
~~characterized in that it has,~~ after being calcined at
 800°C for 8 hours, a specific surface area of at least
 100 m²/g.

3. ^{claim 1}
^{having,}
 Zinc aluminate according to ~~either of the~~
~~preceding claims,~~ ~~characterized in that it has,~~ after
 being calcined at 900°C for 2 hours, a specific surface
 area of at least 70 m²/g. ~~more particularly at least~~
~~80 m²/g.~~

4. ^{claim 1}
^{having,}
 Zinc aluminate according to ~~one of the~~
~~preceding claims,~~ ~~characterized in that it has,~~ after
 being calcined at 1000°C for 6 hours, a specific surface
 area of at least 50 m²/g. ~~more particularly at least~~
~~70 m²/g.~~

5. ^{claim 1}
^{having}
 Zinc aluminate according to ~~one of the~~
~~preceding claims,~~ ~~characterized in that it has,~~ after
 being calcined at 1000°C for 6 hours, in an H₂O/N₂ medium
 with 10% H₂O by volume, a specific surface area of at
 least 50 m²/g.

6. ~~Zinc aluminate according to one of the~~
~~preceding claims, characterized in that it comprises at~~
~~least one additive chosen from the elements of Groups IA,~~
~~IIA, VIIA to IB of the Periodic Table and from tin,~~

Sub
A1

gallium and the rare earths.

Sub
A-1
cont

7. Precursor composition for a zinc aluminate, characterized in that it comprises compounds of zinc and of aluminium and in that it is capable of forming, after being calcined, a zinc aluminate, this aluminate having, after being calcined at 800°C for 8 hours, a specific surface area of at least 85 m²/g.

8. Composition according to claim 7, ^{which} ~~characterized in that it is capable of forming an~~ aluminate having, after being calcined at 800°C for 8 hours, a specific surface area of at least 90 m²/g. ~~more particularly at least 100 m²/g.~~

9. Composition according to claim 7 ~~or 8~~, ^{comprising} ~~characterized in that it furthermore comprises at least~~ one compound of an element ^{selected from the group consisting of} ~~chosen from those of~~ Groups IA, IIA, VIIA to IB of the Periodic Table and from tin, gallium and the rare earths.

Sub
A-2

10. Process for the preparation of an aluminate according to one of claims 1 to 6, or of a precursor composition according to one of claims 7 to 9, characterized in that it comprises the following steps:

- a zinc salt, sol or alkoxide and an aluminium alkoxide are brought together in a solvent medium, optionally with a salt, sol or alkoxide of at least one
- 25 aforementioned additive;
- the mixture thus formed is hydrolysed by adding water in an excess amount with respect to the aluminium alkoxide;

the precipitate formed is recovered and optionally dried, thereby obtaining the precursor composition;

- if required, the said precipitate is calcined, thereby obtaining the aluminate.

11. Process for the preparation of an aluminate comprising an additive according to claim 6 or of a precursor composition comprising a compound of an element according to claim 9, characterized in that it comprises the following steps:

- a zinc salt, sol or alkoxide and an aluminium alkoxide are brought together in a solvent medium;

- the mixture thus formed is hydrolysed by adding water in an excess amount with respect to the aluminium alkoxide;

- the precipitate formed is recovered and optionally dried, thereby obtaining the precursor composition;

- if required, the said precipitate is calcined, thereby obtaining the aluminate;

- the precursor composition or the aluminate is impregnated with a solution of a salt of the additive or of the aforementioned element.

12. Process according to claim 10 ~~or 11~~,
 25 ~~characterized in that~~ ^{wherein} an alcoholic solvent is used as solvent medium.

13. Process according to claim 10, ~~or 12~~,
^{wherein} ~~characterized in that~~ water in the form of a

water-alcohol mixture is added.

A 14. Process according to ~~one of claims 10 to~~ ^{claim 10}
 A ~~13, characterized in that~~ ^{wherein} the zinc salt and the aluminium
 alkoxide are brought together by adding the zinc salt in
 5 the solvent medium to the aluminium alkoxide.

A 15. Process according to ~~one of claims 10 to~~ ^{claim 10}
 A ~~14, characterized in that~~ ^{wherein} the precipitate is calcined at
 a temperature of at least 500°C.

A 16. Process for the treatment of gases for ~~the~~
 10 A ~~purpose of~~ reducing the emissions of nitrogen oxides,
 A ~~characterized in that~~ ^{comprising using} a catalytic system comprising an
 aluminate according to ~~one of claims 1 to 6 is used.~~ ^{claim 1}

A 17. Process for the treatment of exhaust gases
 of motor vehicles, ~~characterized in that~~ ^{comprising using} a catalytic
 system comprising an aluminate according to ~~one of~~
 15 ~~claims 1 to 6 is used.~~

A 18. Process for the treatment of gases from
 motor vehicles, characterized in that a catalytic system
 comprising an aluminate according to one of claims 1 to
 20 6 is used, the gases having a high oxygen content.

19. Catalytic system for the implementation of
 a process according to claims 16, 17 or 18, characterized
 in that it comprises an aluminate according to one of
 claims 1 to 6 on a substrate.

25 20. Use of an aluminate according to one of
 claims 1 to 6 or of a precursor composition according to
 one of claims 7 to 9 for the manufacture of a catalytic
 system according to claim 19.

Add 32 >